CyberLaw

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Legal Stuff – Read Carefully

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We face new choices

Select One

Security

Privacy

Networks and CyberCrime

- Your employees hack your computers
- They write malicious code and destroy valuable information assets
- Employees download MP3's and movies, gobbling up bandwidth and violating copyrights
- Employees download pornography and share it with other students via your e-mail system
- Employee downloads child pornography and stores it on the university's network
- Employee moonlights by running a personal business form her office workstation
- Employee steals your intellectual capital and sells it on eBay
- Employee uses your computers to embezzle from you
- Disgruntled Employee sabotages your network

Problems => lawsuits

- Privacy – especially personal information
- Property – copyright and patent infringement
- Torts – defamation, downstream liability
- Contracts – digital signatures
- Administrative and Regulatory Law
- Criminal Law and Procedure
- Other Fascinating Issues

It’s a “target rich” environment!

Federal CyberLaw

- 18 USC 1029 Fraud and Related Activity in Connection with Access Devices
- 18 USC 1030 Computer Fraud and Abuse Act
- 18 USC 1362 Communication Lines, Stations or Systems
- 18 USC 2511 Electronic Communications Privacy Act
- 18 USC 2701 Unlawful Access to Stored Communications
- 18 USC 2702 Disclosure of Contents
- 18 USC 2703 Requirements for Government Access
- 18 USC 793 Espionage
- 15 USC 1644 Consumer Credit Protection
- 17 USC 101 et seq. Copyright
- 18 USC 1831-2 Economic Espionage

Monitoring Network Operations

- **Two situations:**
  - **Everyday routine operations**

  - vs -

  - **Incident response**

Auditing and Monitoring Network Activity

- **Network monitoring**
  - **Real-time acquisition and contemporaneous or subsequent analysis of network communications**
    - **Ethereal, tcpdump, NIDS such as Snort, email server virus scanners, etc.**

- vs -

- **Stored electronic files**
  - **Sysop's and Network Administrator's review of stored network communications and network or host logs**

Criminal Activity on Networks

- **Illegal Surveillance**
  - **Wiretap Act (18 U.S.C. § 2511)**
  - **Pen/Trap Statute (18 U.S.C. § 3121)**
  - **Electronic Communications Privacy Act (18 U.S.C. § 2701)**
- **Network Crimes**
  - **Computer Fraud and Abuse Act (18 U.S.C. § 1030)**
- **Using a Network to Commit Traditional Crimes**
  - **Criminal copyright/trade secret violations**
  - **Threats, stalking and harassment**
  - **Child pornography**
  - **Fraud, embezzlement, money laundering, counterfeiting, extortion**

Illegal Surveillance

- Wiretap Act (Title III - ECPA I)
  - real-time interception of electronic, voice and wire communication content contemporaneous with transmission
    - Examples: packet data payloads, email subject lines

- Pen Register/Trap and Trace Statute (Pen/Trap)
  - installation or use of a device that decodes or intercepts electronic and wire communication non-content such as routing or addressing information
    - Examples: packet headers, email bang lines

- The Stored Communications Act (ECPA II)
  - Covers illegal access to certain stored voice and electronic communication service facilities

Wiretap Act

- Prohibits intercepting the content of communications during delivery unless an exception applies

- Four important exceptions:
  - Consent [18 U.S.C. § 2511(2)(c)]
  - Provider exception [18 U.S.C. § 2511(2)(a)(i)]
  - Computer Trespasser [18 U.S.C. § 2511(2)(i)]
  - Publicly Accessible [18 U.S.C. § 2511(2)(g)(i)]

Consent Exception

- **Two types of consent:**
  - **Party consent**
  - **Implied or express consent by a non-party**

Party Consent

- Lawful to intercept if you are a party to the communication
  - Who is a “party” to computer network communications?
    - Some cases suggest that the owner of a computer network (and the owner’s agents) are a “party” to communications sent to and from the network.

But: What about the pass-through victim?

Implied and Express Consent

- **Obtain express or implied consent to monitor prior to interception**
  - **Implied: Banner on the login screen**
  - **Express: Obtain written consent of authorized users**

But: Trespassers unlikely to see banners and won’t give express consent

Provider Exception

- **Allows network owners (and their agents) to conduct reasonable interception, use & disclose:**
  - **To protect provider's "rights or property"**
  - **When done in normal course of business while engaged in any activity which is a necessary incident to the rendition of service**

But: Does not permit unlimited monitoring

But: You cannot use provider exception to prospectively gather evidence for law enforcement

Computer Trespasser Exception

- USA PATRIOT Act modification to Wiretap Act
- Allows law enforcement to intercept communications to or from “computer trespassers”
  - A “computer trespasser” is a person who accesses a computer without authorization
    - excludes persons known by the provider to have an existing contractual relationship with the provider for use of the system
    - someone exceeding their authorized use is not a trespasser
  - Applies only if the provider authorizes the interception
  - Interception performed by law enforcement or its agent

But: Expires Dec. 31, 2005 (unless Patriot Act extended)

Publicly Accessible Exception

- **Permits interception of communications that are readily accessible to the general public**
  - **Example: public message board postings**

But: Does not apply to private forums

- **private chat session within public chat room**
- **if bannered, consent may apply**

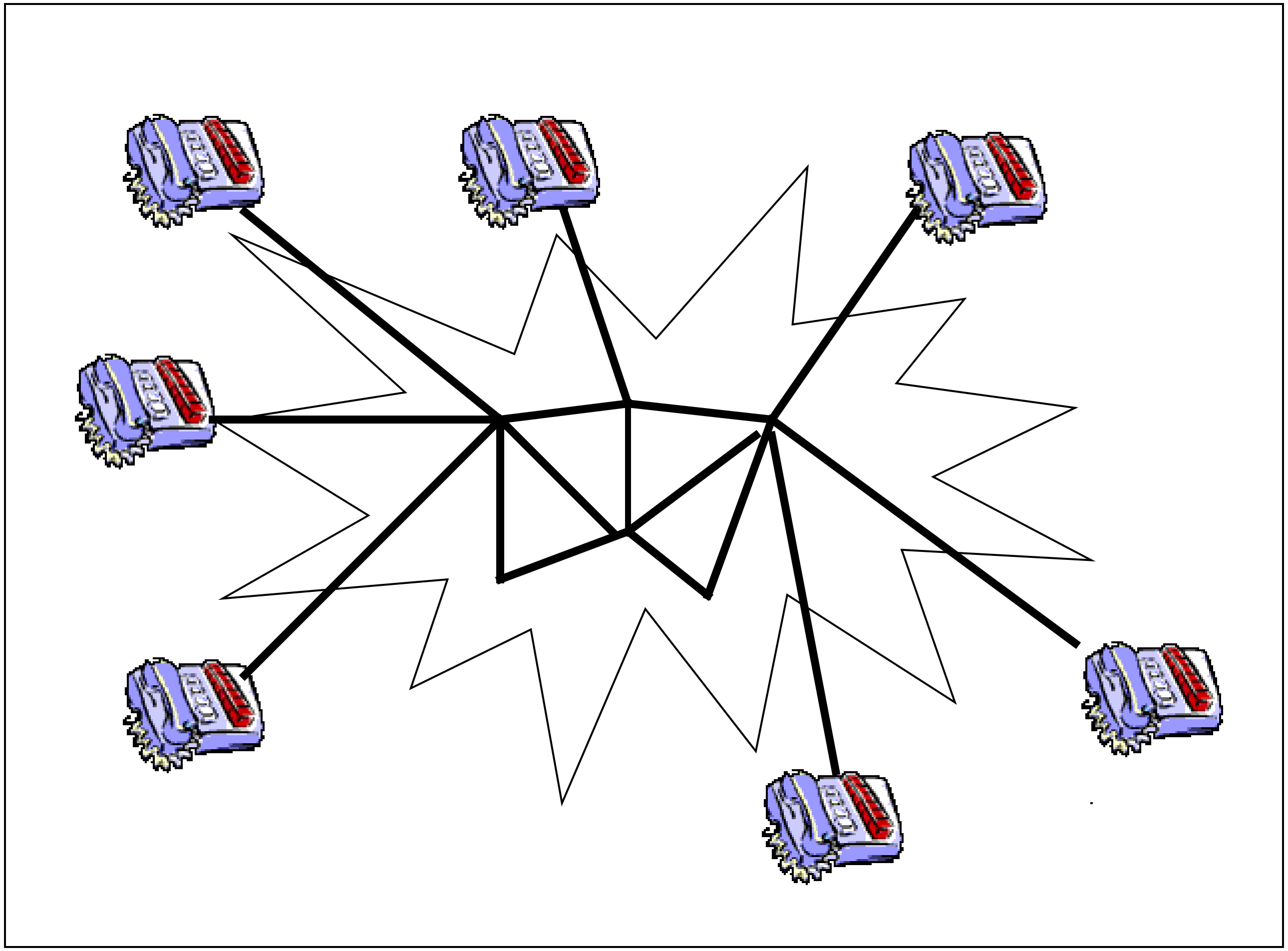
PEN/TRAP Statute

- **Prohibits intercepting the non-content parts of communications streaming across a network unless an exception applies**
- **Broad authority for providers to use pen/trap devices:**
  - **For operations, maintenance, or testing;**
  - **To protect rights or property;**
  - **To protect users from abuse or unlawful use;**
  - **To record communication initiation and completion to protect rights or property, another provider furnishing service and users from fraudulent, unlawful or abusive use of service; and**
  - **Where the implied or express consent of the user has been obtained.**

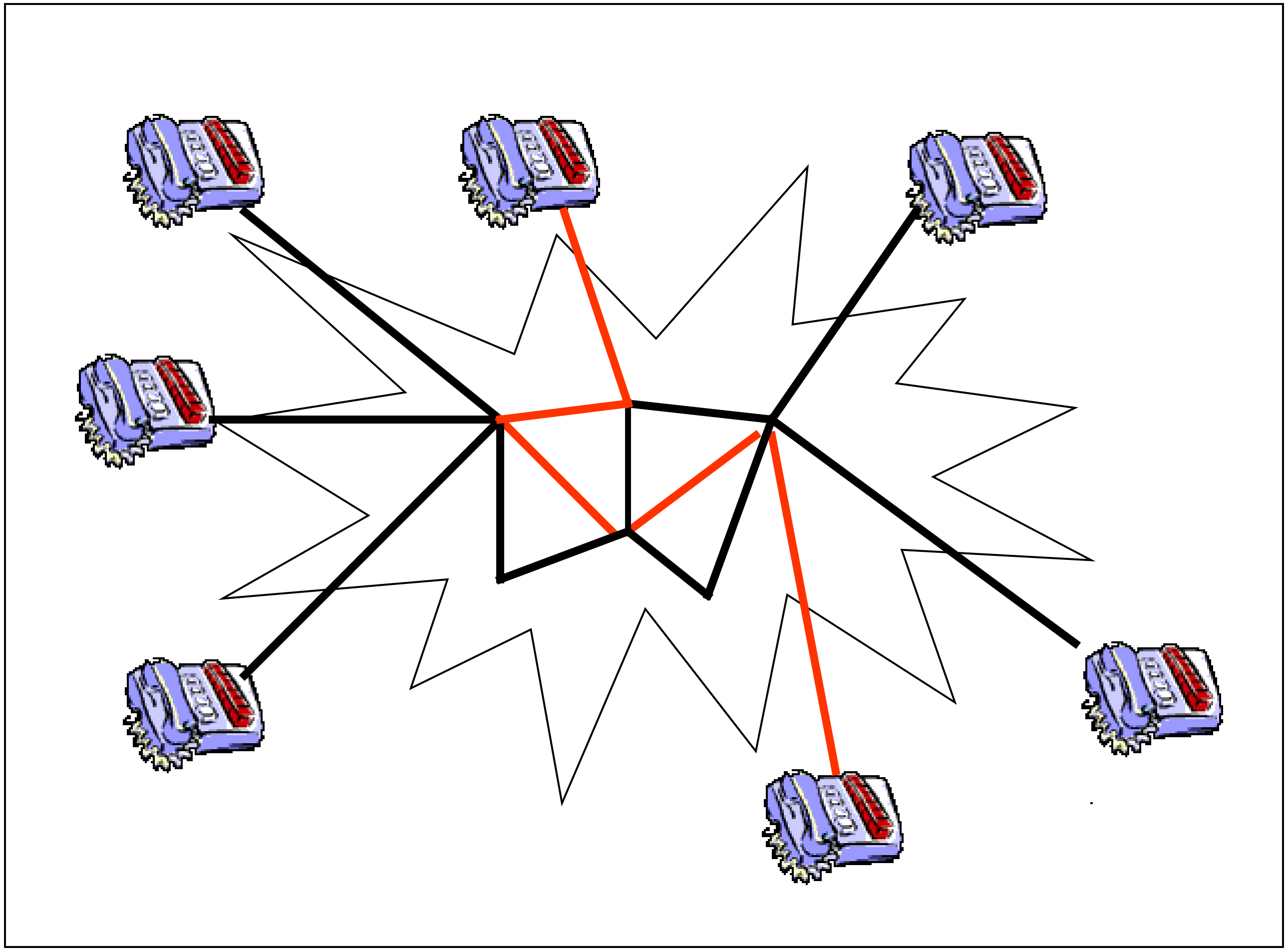
Stored Communications

- **18 USC § 2701 prohibits accessing electronic or wire communications in “electronic storage” without or in excess of authorization**
  - **Example: obtaining, altering or deleting unretrieved email**
- **Provider exception:**
  - **§ 2701 does not apply to conduct authorized by the person or entity providing an electronic or wire service**
  - **Example: e-mail virus scanning**

Circuit Switching



Circuit Switching



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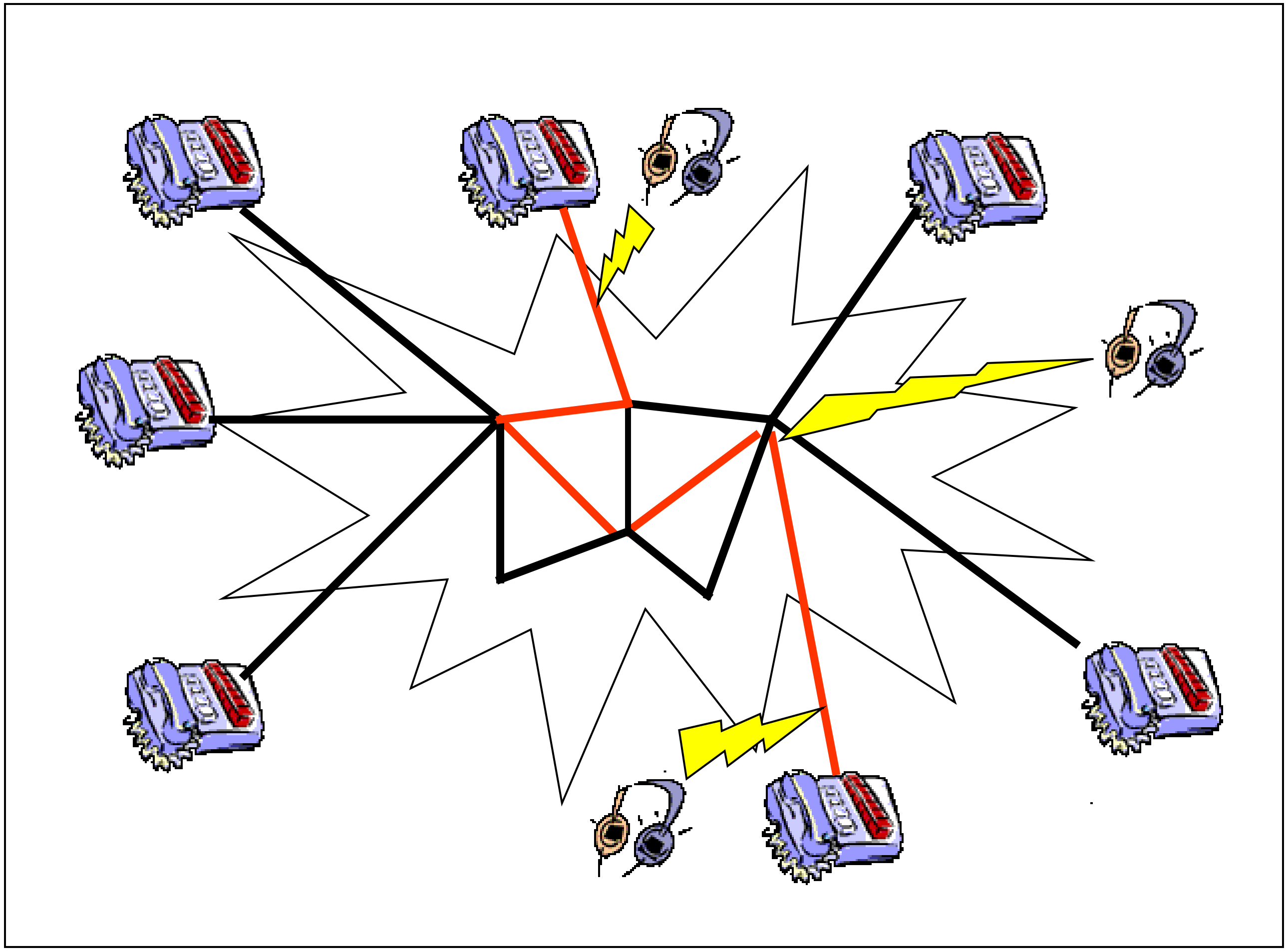
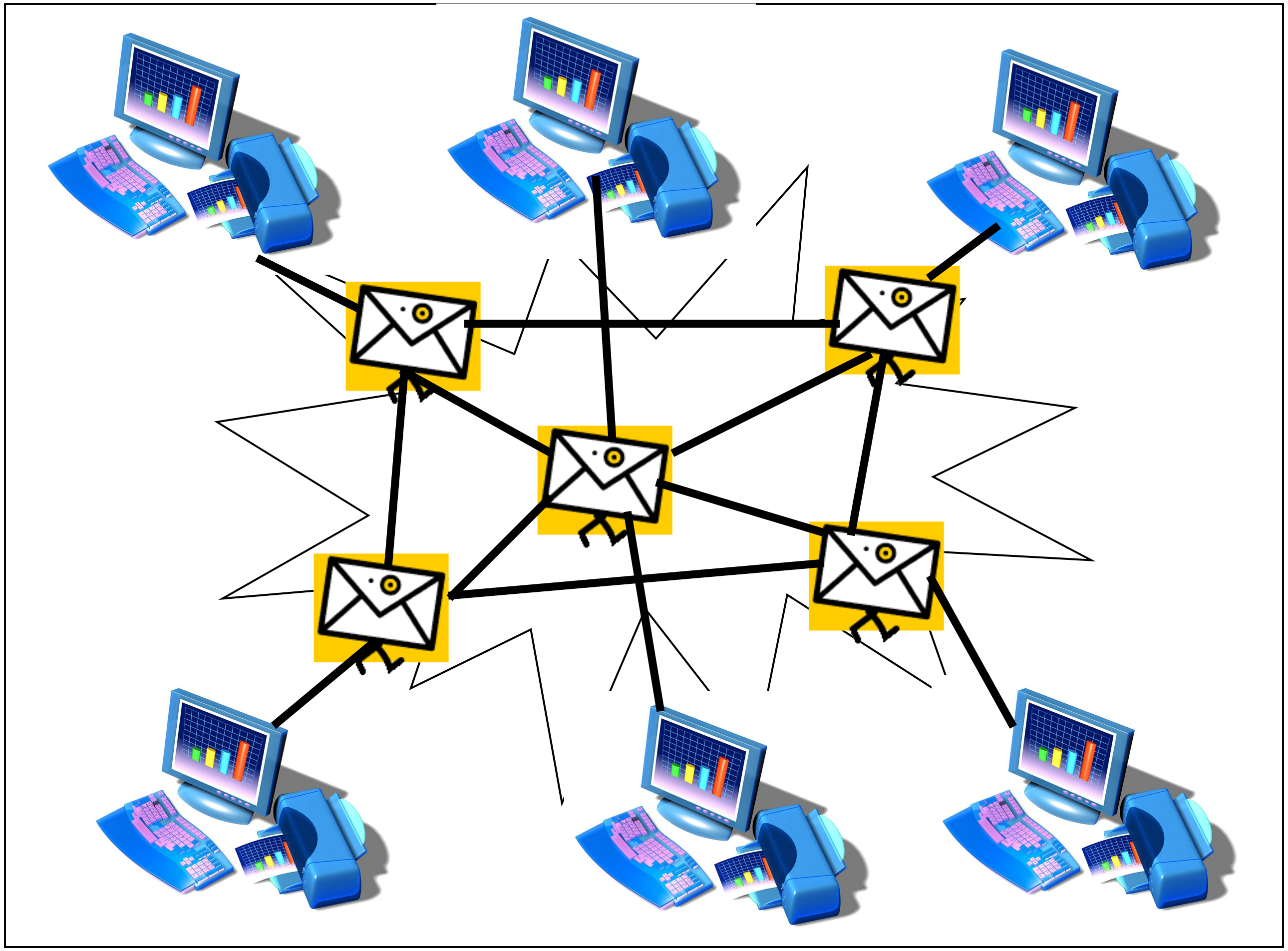


Packet Switching



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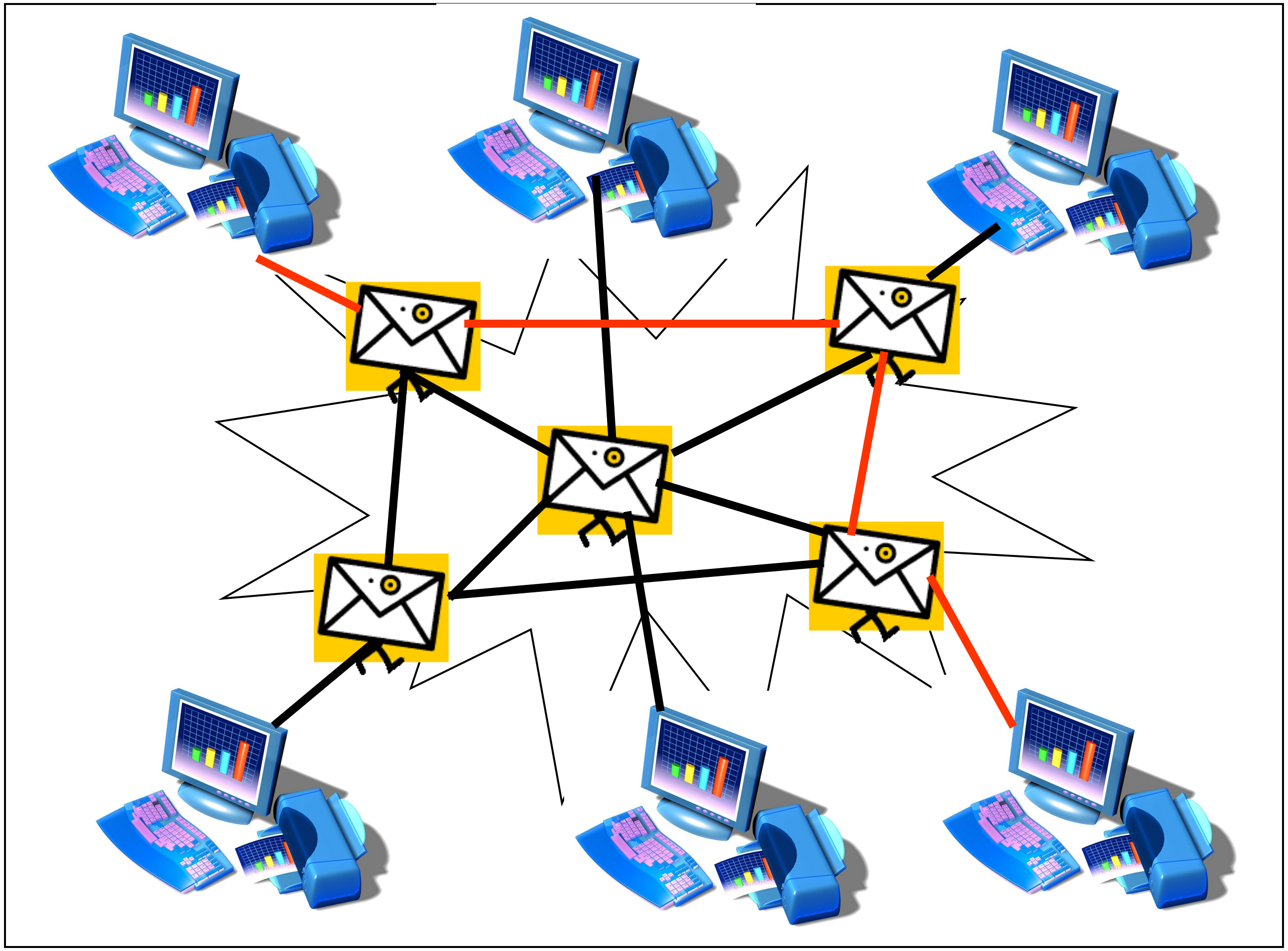

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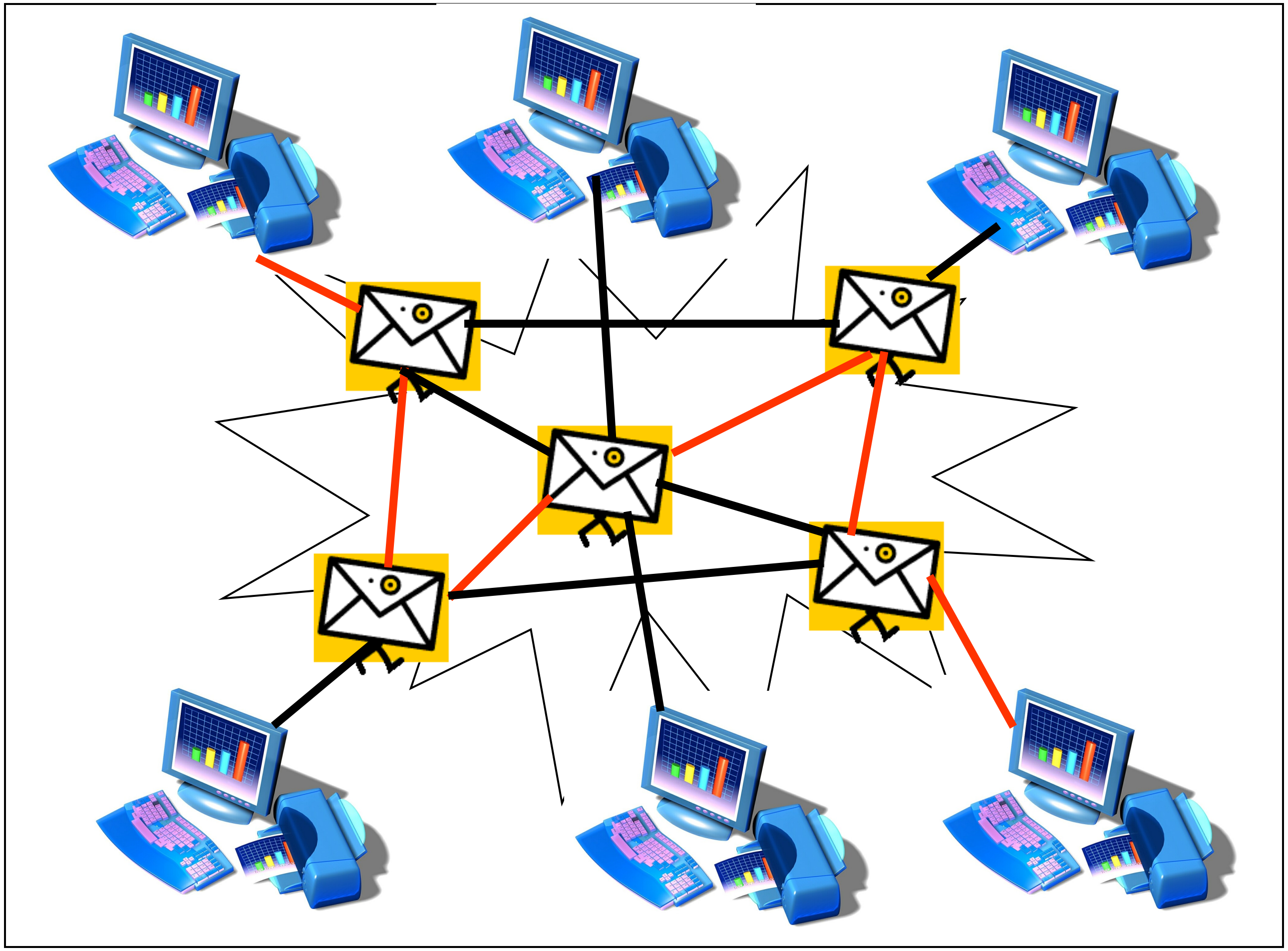

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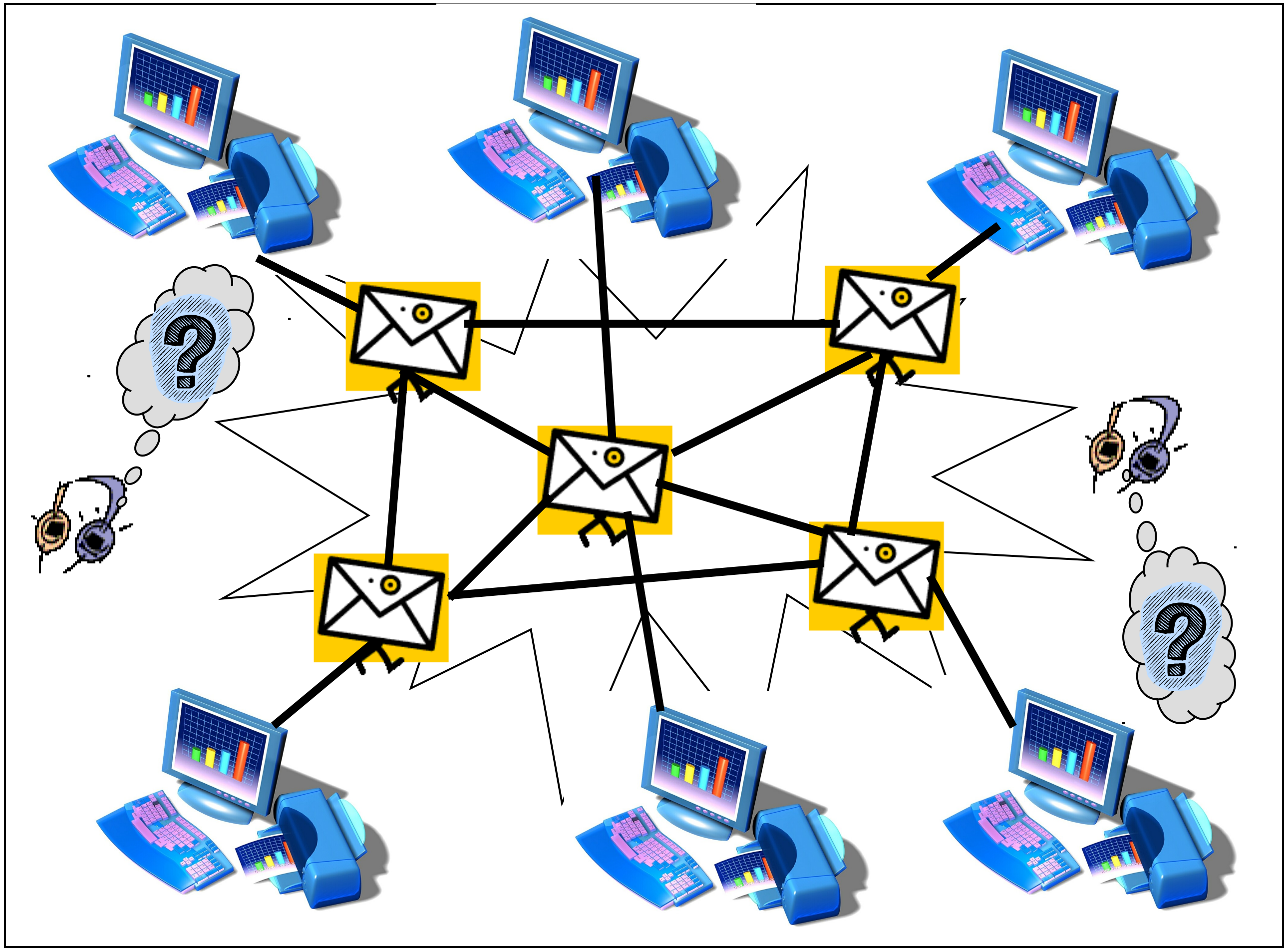


Key Cases

- Steve Jackson Games v. USSS
- Konop v. Hawaiian Airlines
- US v. Scarfo
- US v. Steiger
- Thompson v. Thompson
- US v. Councilman
- Theofel v. Farley-Jones

Incident Response

- Criminal activity on the network
  - Network Crime
  - Other types of crime
- Call in law enforcement
- Keep records that will quantify the damages caused by the incident
- Log traffic data
- Consider imaging affected systems

Remember: Digital forensics is not for amateurs

Preparing in Advance

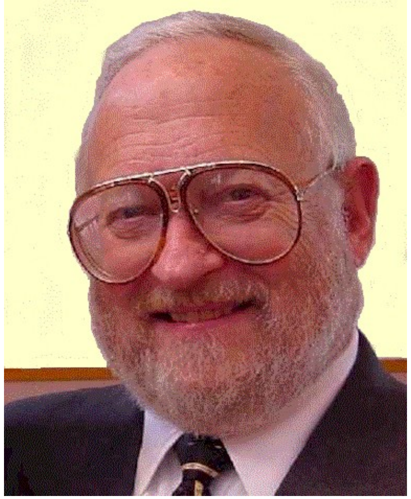
- Instill healthy concern and caution
  - Management
    - Instill concern and illustrate threat
    - Emphasize planning, policies and procedure
  - CERT Team
    - Trained and equipped
  - Sys admins and network engineers
    - Instill caution
  - All employees
    - What to look for
    - Who to call

Civil CyberLaw

- Privacy
  - E-mail privacy
  - Adult materials
  - Spam
- Torts
  - Defamation
  - Tortious interference with business
  - Downstream liability
- Intellectual Property
  - Copyrights, patents, trade secrets, trade dress

- Contract Law
  - Electronic signatures
  - e-commerce and e-government
- Jurisdiction in cyberspace
- Administrative Law and Regulation
- Business and tax law
- Professional liability
  - Erroneous information
  - Professionals
  - Professors

Thank You!



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